



OASIS Estimating Tool v.1

December 2014

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1. Introduction

OASIS' Estimating tool assists in the development of the labor portion of the independent government cost estimate (IGCE) for OASIS SB and OASIS task orders. Its power lies in the ability to index pricing to approximately 640 precise geographic locations. As well, it can be used by OASIS SB and OASIS contractors to develop task order pricing strategies.

Understanding the standardized labor categories in the OASIS contracts is necessary to successful use of the tool. The Estimating Tool captures:

- Every labor occupation in the Office of Management and Budget's (OMB)
 Standard Occupational Classification (SOC) System.
- The BLS database of wage statistics for the SOC occupations across the nation and several territories (Guam, Puerto Rico, and Virgin Islands) determined by surveys conducted by the Department of Labor's Bureau of Labor Statistics (BLS).
- Precise performance locations defined as Metropolitan Statistical Areas by the BLS.
- The lowest, average, and highest indirect costs associated with the OASIS contracts.

2. Background

2.1. Standardized Labor Categories (LCATs)

An important innovation in Government contracting through GSA's OASIS contracts is the standardization of contract labor categories (LCATs) against the OMB's SOC system. The SOC system includes over 800 detailed occupations covering all jobs in the economy. The BLS maintains national, state, and local level wage statistics against the SOC occupations. Standardizing OASIS LCATs to the SOC allowed GSA to leverage the BLS wage information against the broad range of labor markups in the contracts' pricing to develop a powerful labor cost estimating tool. It provides OASIS task order pricing estimates for up to 640 precise geographic locations including:

- The 50 states, the District of Columbia (D.C.), the U. S. Territories of Guam, Puerto Rico, and the Virgin Islands.
- Metropolitan areas within the 50 states, D.C., and the U. S. Territories.
- Non-metropolitan areas within the 50 states, D. C., and the U. S. Territories.

Metropolitan and non-metropolitan areas are collectively referred to as metropolitan statistical areas (MSAs) in the tool.

2.2 Wage (compensation) Levels

Compensation levels are an important element of successful professional service contracts. FAR Subpart 22.1103 establishes that "all professional employees shall be compensated fairly and properly." The OASIS contract solicitations included the provision at FAR 52.222-46, Evaluation of Compensation for Professional Employees. This provision establishes that low or unfair compensation levels:

- Are detrimental in obtaining quality professional services needed for adequate contract performance.
- May impair the Contractor's ability to attract and retain competent professional service employees.

The BLS publishes wage statistics that include wages at the 10th, 25th, 50th (Median), 75th, and 90th percentile of all wages paid in the economy. OASIS contracts are structured to standardize labor categories at four experience and qualification (E&Q) levels: Junior (Jr), Journeyman (Jy), Senior (Sr), and Subject Matter Expert (SME). SMEs are most commonly priced at the highest wage levels and often above the 90th percentile according to GSA research. For pricing evaluation and strategy then, GSA developed an Expert wage level for each occupation by applying a statistical standard deviation formula to the BLS' recorded percentile wages for that occupation. The tool captures all of the BLS' statistical wage levels and the Expert wage level for all occupations in the SOC.

GSA analyzed the BLS wage statistics to establish an estimate of fair and proper compensation levels that would ensure adequate contract performance and not impair the Contractor's ability to attract and retain competent professional service employees. That estimate process resulted in a naturally progressing compensation scale:

E&Q Level	E & Q Standard	BLS Wage Percentile	
	(experience-education)		
Junior	0-3 years' – BA/BS degree	50 th	
Journeyman	3-10 years' - BA/BS or MA/MS	75 th	
Senior	Over 10 years – MA/MS	90 th	
SME	Recognized industry leader	GSA developed Expert wage level	

The tool is programmed, then, to capture the related wage levels for each E&Q level of an occupation.

2.3. Primary versus Ancillary Occupations

The OASIS contracts include 127 professional occupations from the SOC system and these 127 are allocated among 26 specific OASIS LCATs. These occupations are

considered those most likely to perform the professional service requirements under OASIS. Each of the 127 occupations is associated with one of the 26 specific LCATs. Refer to OASIS SB and OASIS contracts, Attachments J-1, to make sure you are familiar with these relationships. Applying the four E&Q levels to each of the 26 LCATs, OASIS/OASIS SB contracts include 104 (26*4) LCATS.

Attachment 1 to the guide discusses several traditional labor categories and where they are associated in the SOC system.

In the tool, each occupation in the SOC is classified as one of two types: Primary, or Ancillary. Primary occupations are those included in the 127 occupations in the OASIS contracts by association with one of the 26 OASIS LCATs. Ancillary occupations are the remaining 700+ occupations in the SOC.

The OASIS contracts allow full flexibility to add all ancillary labor needed to complete a total professional services solution at the task order level. Since ancillary labor categories are not listed at the OASIS contract level, they must be identified at the task order level. The same BLS wage information and OASIS contracts labor markup rates used to estimate primary labor costs can be used to estimate ancillary labor costs. The tool was designed to estimate the cost of both Primary and Ancillary labor.

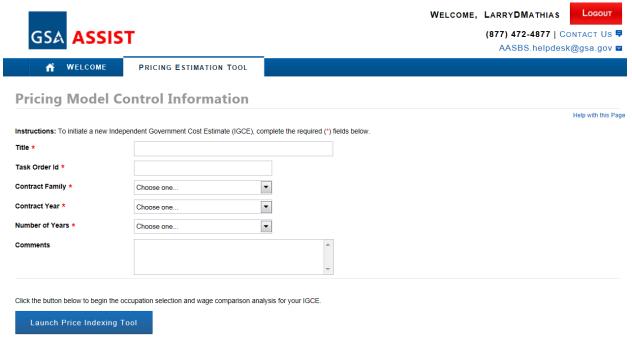
2.4. Compensation Levels for Ancillary Occupations

In developing the tool, it was necessary to structure a four-level compensation model for Ancillary occupations similar to the Primary occupations for consistency. Because Ancillary occupations cover a broad range of types, from blue-collar to non-professional white-collar, to professional white-collar employees, the four-level compensation structure for Ancillary occupations needed to be flexible and distinct from the structure for Primary occupations. As noted above, some Ancillary occupations are professional white-collar and would likely follow the same compensation levels as the Primary occupations. Other Ancillary occupations like the example of Engineering Technician would follow a lower compensation scale whereas the example of a Secretary would follow an even lower compensation scale.

To avoid confusion with the Primary occupation E&Q Levels of Jr, Jy, Sr, and SME, the Tool was designed to classify the four wage levels for Ancillary occupations simply as Wage Levels 1, 2, 3, and 4, or WL1, WL2, WL3, WL4. To create the needed flexibility in the associated wage scales, the tool allows the user to anchor WL1 for each Ancillary occupation at one of the 10th, 25th, or 50th percentiles. This creates three potential naturally progressing compensation levels for Ancillary occupations as illustrated later in Step 4 of Section 3.3: Pricing Index Tool Page for Ancillary Labor Categories.

3. Using the Tool

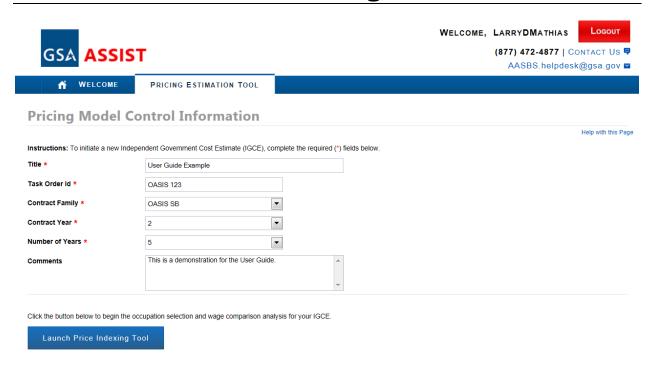
3.1. The Entry Page:



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- Step 1. Title: This is the name of your requirement.
- Step 2. Task Order Id: This is your solicitation or project number.
- Step 3. Contract Family: This is a pull-down menu. Select OASIS or OASIS SB.
- Step 4. Contract Year: This is a pull-down menu. This selects the year for your base period of performance. If doing your solicitation in FY15, select "2".
- Step 5. Number of Years: This is a pull-down menu. Select the number of years of performance that you want an estimate for (in other words, how many option years does your requirement have?)
- Step 6. Comments: This is an open area for your comments. If you are doing multiple estimates for the same requirement, you can annotate that here.

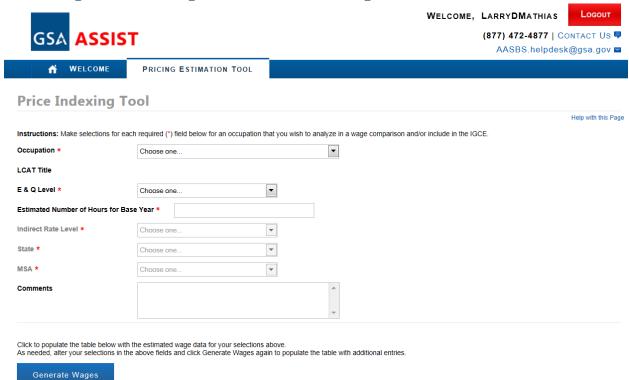
Example:



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Once the information is input, click "Launch Pricing Index Tool".

3.2 Pricing Index Tool Page for OASIS Labor Categories



Step 1. Occupation: This is a drop down menu. Select the occupation you wish to estimate. If the selected occupation is included in the OASIS standardized labor categories, the name of the labor category will appear. Otherwise, the word "Ancillary" will appear.

Step 2. E&Q Level: This is a drop down menu. For OASIS standardized labor categories, select Junior, Journeyman, Senior, or SME. For ancillary occupations, select WL1, WL2, WL3, or WL4.

In order to better understand how the Estimating Tool works and what the generated rates are based upon, please refer to the background information in Sections 2 and 4 for details surrounding Bureau of Labor Statistics wage compensation levels and their use in estimating OASIS standardized labor categories and ancillary labor categories. For quick reference, the OASIS standardized labor categories follow the compensation level mapping below:

E&Q Level	E & Q Standard	BLS Wage Percentile
	(experience-education)	
Junior	0-3 years' – BA/BS degree	50 th
Journeyman	3-10 years' - BA/BS or MA/MS	75 th
Senior	Over 10 years – MA/MS	90 th
SME	Recognized industry leader	1 Std Deviation above 90th

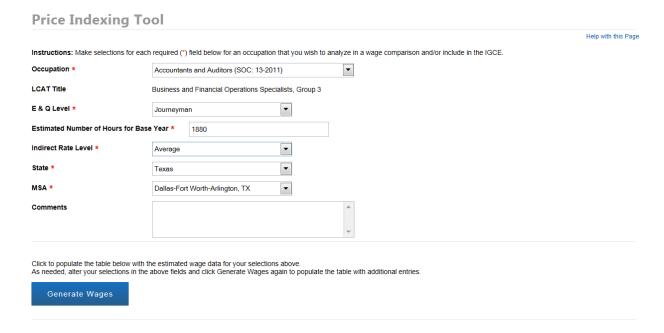
NOTE: The assignment of E&Q Level to BLS Wage Percentile for OASIS Labor Categories was done for the establishment of OASIS Not-To-Exceed (ceiling) prices for sole-source task orders. Accordingly, this will likely result in an upper range estimate for your requirement, depending on the specific details associated with your task order. For estimating purposes, you may elect to price labor categories one level below what you are actually contracting for. We are currently working on a system revision to allow customization of these rates similar to the Ancillary Labor Categories. This will likely appear in version 2 of the Estimating Tool.

Step 3. Estimated Number of Hours for Base Year: Enter the number of hours for the base period of performance of your task order.

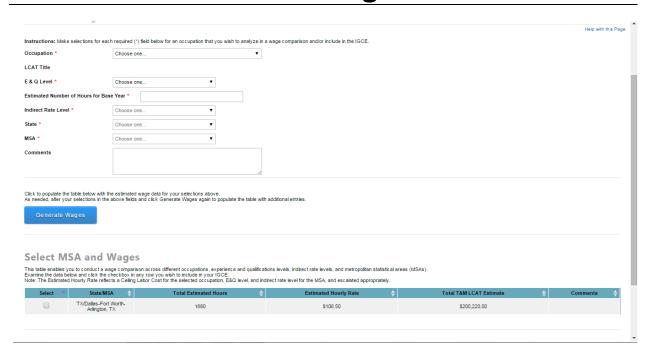
NOTE: The tool as currently designed uses the base year hours you enter in all task order years to calculate estimated costs. We are currently working on a system revision to allow you to enter hours for each task order period. This better accommodates situations with a short base year (fewer hours than in later task order periods) and requirements for different staffing levels in task order option years. This will likely appear in version 2 of the Estimating Tool. For estimating purposes until that time, you may want to do a separate estimate for the base period where you have less than a full year's hours.

- Step 4. Indirect Labor Rate: This is a drop down menu. Select low, medium, or high. Average represents the average indirect rate of all OASIS/OASIS SB contractors. We encourage use of this selection.
- Step 5. State: This is a drop down menu. Select the state where performance will be conducted.
- Step 6. MSA: Select the area within your state where performance will be conducted.
- Step 7. Comments: Include any comments you think necessary. You can record your selections in this area.

Example:



Step 8. Once you have completed the information in Steps 1 to 7, press the "Generate Wages" button. The result is illustrated below.

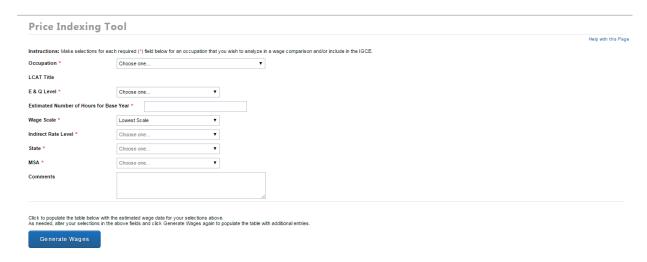


Note that the fields for selecting Occupations have reset for entry of the next occupation needed and the "Select MSA and Wages" section displays the selection you just completed. The "Estimated Hourly Rate" is a fully burdened direct hourly wage for the MSA and E&Q Level that you specified.

Repeat Steps 1 to 8 until you have captured all occupation/E&Q level combinations necessary to perform your task order work.

3.3 Pricing Index Tool Page for Ancillary Labor Categories

As stated in Section 3.2, Step 1, when you select an occupation that is Ancillary, the "LCAT Title" field auto-fills with "Ancillary." At this point, an additional field titled "Wage Scale" appears below the "Estimated Number of Hours for Base Year" field.



Step 1. Occupation: This is a drop down menu. Select the occupation you wish to estimate. If the selected occupation is included in the OASIS standardized labor categories, the name of the labor category will appear. Otherwise, the word "Ancillary" will appear.

Step 2. E&Q Level: This is a drop down menu. For ancillary occupations, select WL1, WL2, WL3, or WL4. Similar to the 4 levels of labor category, WL1 represents the lowest level and WL4 represents the highest level for ancillary labor categories. If you care to think of it the same way OASIS labor categories are defined, then WL1 corresponds to Junior, WL2 to Journeyman, WL3 to Senior, and WL4 to SME.

Step 3. Estimated Number of Hours for Base Year: Enter the number of hours for the base period of performance of your task order.

NOTE: The tool as currently designed uses the base year hours you enter in all task order years to calculate estimated costs. We are currently working on a system revision to allow you to enter hours for each task order period. This better accommodates situations with a short base year (fewer hours than in later task order periods) and requirements for different staffing levels in task order option years. This will likely appear in version 2 of the Estimating Tool. For estimating purposes until that time, you may want to do a separate estimate for the base period where you have less than a full year's hours.

Step 4. Wage Scale: The wage scale selection allows you to assign E&Q Levels to the BLS Wage Percentile Level. The BLS Wage Percentile Levels are 10%, 25%, 50%, 75%, and 90%. Selecting Low, Medium, or High assigns the following wage levels:

WL1 percentile anchor points/resulting scale		Example of use		
WL1	WL2	WL3	WL4	
10 th Percentile	25 th Percentile	50 th Percentile	75 th Percentile	LOW
25 th Percentile	50 th Percentile	75 th Percentile	90 th Percentile	MEDIUM
50 th Percentile	75 th Percentile	90 th Percentile	One Std Deviation above 90 th	HIGH

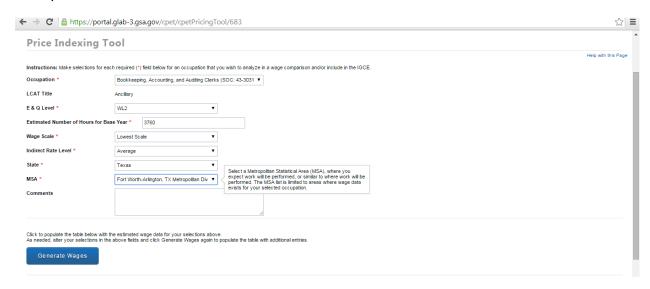
Step 5. Indirect Labor Rate: This is a drop down menu. Select low, medium, or high. Average represents the average indirect rate of all OASIS/OASIS SB contractors. We encourage use of this selection.

Step 6. State: This is a drop down menu. Select the state where performance will be conducted.

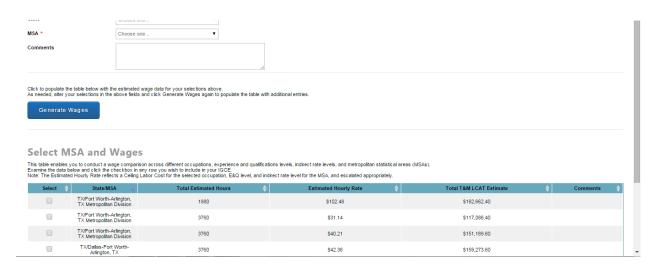
Step 7. MSA: Select the area within your state where performance will be conducted.

Step 8. Comments: Include any comments you think necessary. You can record your selections in this area.

Example:



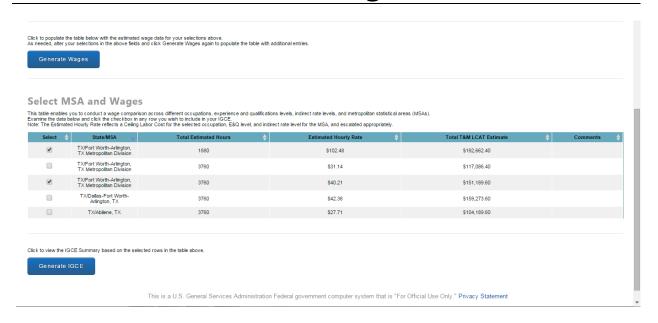
Step 9. Generate wages: Once you have completed the information in Steps 1 to 8, press the "Generate Wages" button. The result is illustrated below:



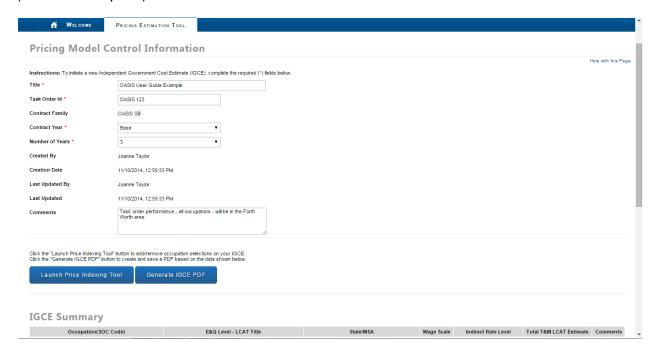
Repeat Steps 1 to 9 until you have captured all occupation/E&Q level combinations necessary to perform your task order work.

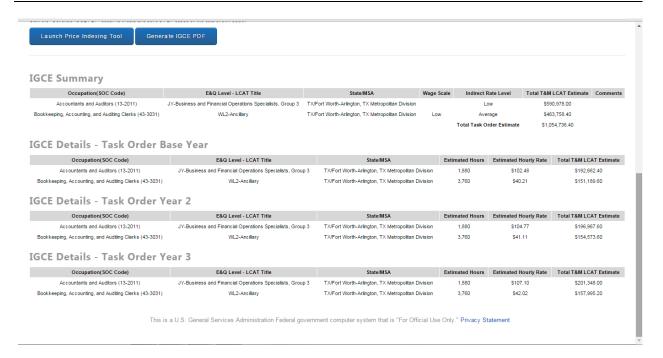
3.4 Select MSA wages and generate your IGCE.

Step1. Select MSA and wages. Place a check mark next to each occupation/E&Q level you wish to include in your estimate. You may have estimated some items in error and wish to exclude them now. Your finished selections should look like the example below with unchecked items being excluded from the IGCE:



Step 2. Generate your IGCE. This step produces a completed detailed estimate for your task order file. Press the blue Generate IGCE button. You screen will display a report similar to this (shown in two parts):





The completed estimate contains two sections: the Control Information and the detailed line items (including a summary line). If you wish to modify the estimate with additions or deletions, press the "Launch the Price Indexing Tool" button and repeat the previous steps. If you are otherwise satisfied with the estimate, move to the final step to generate a PDF copy of your estimate.

Step 3. Generate a PDF format copy of your IGCE. Press the "Generate IGCE PDF" button. The system will generate a PDF copy of the IGCE and display the document ICON at the bottom left of your screen. Open the file and use the "Save as" function to file the electronic PDF copy on your computer in a desired location. You can now retrieve, store, or print your IGCE as desired.

4.1 Preparatory work before using

Some preparation is necessary before using the OASIS Estimating Tool to compile your IGCE. You must be familiar with the OMB SOC system and know how to find and analyze the functional statements for each occupation. Two websites sponsored by the DOL will be useful in this regard:

http://www.bls.gov/oes/current/oes_nat.htm

This is the Occupational Employment Statistics website. You can navigate the links on this webpage to review occupations and related functional statements.

http://www.onetonline.org/

This website is available to the public and is designed to support multiple uses. Job seekers can find employment related information. Workforce and HR specialists can

find job classification related information. Researchers can find occupational and industry employment profiles. The value you will find is in the ability to search by a job title, job function description or other terms and find matches ranked in order by the relevance of the occupational title, alternate titles, description, tasks, and detailed work activities associated with the keyword(s) you enter.

For each occupation, the O*NET website lists:

- The job function description.
- Alternate job titles reported for the occupation.
- The tasks performed by a person in the occupation.
- The tools and technology used in the occupation.
- The knowledge, skills and abilities required by the occupation.
- Work activities related to the occupation.
- Work context considerations for the occupation.
- Education and experience requirements.
- Work styles and values related to the occupation.

Once you are familiar with the SOC system, occupations in the system, and website resources, you need to be familiar with which occupations are included in the OASIS LCATs and with which LCAT each of those occupations are associated. Refer to Attachment J-1 in the contracts. You will find that the OASIS family LCATs consist of: 8 individual SOC occupations that are aligned in 1:1 relationships with OASIS LCATs of the same title, and 119 SOC occupations that are aligned in many:1 relationships with OASIS LCATs with group names. Each of the 119 SOC occupations are aligned with a subgroup under one of the group names. E.G. All engineers are grouped in the Engineer Group. Each individual Engineer type (e.g. Nuclear Engineer) is assigned to a subgroup under the Engineer Group. Review Attachment 2 to the guide for an explanation of the four major groups and their subgroupings.

Now you will need to analyze the proposed task order statement of work and determine which occupations are most appropriate to perform that work. The O*NET web site will be most useful in this regard. You can compare occupational functional descriptions, occupational tasks, tools and technology needed, knowledge, skills, abilities, work activities and context, education and experience requirements, and work styles with the requirements and expectations of the task order statement of work.

Your preparatory research should provide:

 A list of occupations and skill (E&Q) levels necessary to perform the complete statement of work;

- Specific local market data that may affect the direct professional employee compensation and consequent hourly direct wage rates;
- An estimate of the number of hours required by each occupation skill level to complete the work; and
- A determination of the productive man-year factor you will use, e.g. 2,000, 1,920 or other hours.

It is also helpful to make notes where task order years require differing productive manyear levels. Some examples of this situation:

- The task order requirements are met by having one junior and senior accountant in the task order base year, but then one junior and two senior accountants in the remaining task order years.
- A Financial Examiner is needed only in the final task order year and only for an estimated 900 hours.
- A Chemical Engineer is needed in every task order year, but only for an estimated 800 hours per year.

As noted in Step 3 of Sections 3.2 and 3.3, GSA is currently working on a system revision, likely to appear in version 2 of the Estimating Tool, to allow entry of specific hours for each task order year.

You will also need to determine the location of task order performance for each occupation. The OASIS Estimating Tool supports requirements with multiple performance locations.

It will be helpful to do some local economic research to determine if there may be some anomalies in pay comparability. For example, if most of the occupations needed for the task order work are in adequate supply in your local economy, this might suggest that your target estimate for that occupation can safely be focused on the lower or middle range of professional wages and associated labor rates due to adequate competition for available jobs. However, if one or more occupations needed for the task order work are in short supply in the local economy, you may want to target the estimate for that/those occupation(s) in the higher end of wages and labor rates. Competition for those occupations may not be adequate leaving the job seekers in the advantageous position to demand higher than usual pay.

Attachment 1 – Traditional Job Titles and Labor Categories

There are many traditional industry job titles used as labor categories in current Government contracts. GSA has compiled a list from the DOL websites cross referencing over 1,000 traditional job titles reported to the BLS with the 127 SOC occupations under which they were reported and the OASIS LCATs to which they are linked. The list can be reviewed online at oasis.gov.

There are several traditional labor categories found in Government contracts that are not readily associated with SOC occupations. Among them is the traditional job title/labor category of Project Manager. The BLS does not classify project managers as an occupation. When they work in the areas of construction or information technology, the BLS classifies them as construction managers or computer and information systems managers. When they work in other areas, the BLS classifies them in a residual category of unclassified managers¹ – You will find project managers on the cross-reference list linked to SOC code 11-9199. Managers, All other.

Another traditional title, Program Manager, may be aligned with a number of occupations depending on the area in which the program manager works. Some examples of where it might align, depending on the functions performed, include: 11-9151, Social and Community Service Managers; 11-9111, Medical and Health Services Managers; 11-1021, General and Operations Managers; 11-9041, Architectural and Engineering Managers; 17-2081, Water/Wastewater Engineers; 11-9121, Water Resource Specialists; 13-1111, Management Analysts; and 11-9199, Managers, All other. Other alignments may be appropriate based on actual functions performed. The key to finding the best fit for your program manager needs is a careful examination and comparison of your SOW requirements with SOC occupation functional statements.

You will not find the job title Contract Specialist as a SOC occupation title. For contract specialist work, you might find the best fit in occupation code 13-1023, Purchasing Agent, except Wholesale, Retail, and Farm Products.

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¹ Project Managers Stay in Charge and Out Front; T. DiVincenzo; Occupational Outlook Quarterly; Summer 2006; pp.19-25

Attachment 2 – OASIS LCAT Groupings and Sub-groups

A GSA objective in awarding the OASIS contracts was to reduce the number of OASIS LCATs to a manageable number for award and administration purposes. To reach this objective, GSA grouped 119 of the 127 professional SOC Occupations to be included in the OASIS contracts into four groups: Managers, Business and Financial Operations Specialists, Engineers, and Scientists and Science Technicians. These OASIS groups link to the SOC system major groups: 11-0000 Management Occupations, 13-0000 Business and Financial Operations Occupations, 17-0000 Architecture and Engineering Occupations, and 19-0000 Life, Physical, and Social Science Occupations, respectively.

Sub-groups within each group were established based on relationships between the compensation levels of the individual occupations within the group. The mean, or average, hourly wage and standard deviation were calculated for the combined individual hourly wages within the group. Individual occupations with an hourly wage within the same standard deviation range were then aligned into the same subgroup. Consequently, all individual occupations fell into one of the following sub-groups:

- Occupations with hourly wages within one standard deviation of the Mean
- Occupations with hourly wages between one and two standard deviations
- Occupations with hourly wages between two and three standard deviations

Groupings occurred both above and below the standard deviation. The Engineering Group is shown in the table below as an example of the structure. The illustration following the table will show that Engineer sub-groups aligned as follow:

Standard Deviation Range	Hourly Wage Ranges	Sub-Group
+3 Standard Deviations	\$139.19 to \$160.67	Engineer Group 1
+2 Standard Deviations	\$117.70 to \$139.18	Engineer Group 2
+1 Standard Deviation	\$96.21 to \$117.69	Engineer Group 3
-1 Standard Deviation	\$74.72 to \$96.20	Engineer Group 4
-2 Standard Deviations	\$53.23 to \$74.71	Engineer Group 5

All individual engineering occupations were listed in order from highest to lowest hourly wage, using SME or expert level wage data. Then each with hourly wages falling into a given wage range were aligned with the associated sub-group.

		HIGHEST PAID STATE DATA Level 4			
Occ Code	Occupation title	SME			
17-2171	Petroleum Engineers	160.50	ENGR GR 1		
17-2041	Chemical Engineers	123.71	ENGR GR 2		
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	111.00			
17-2081	Environmental Engineers	105.65	R 3		
17-2031	Biomedical Engineers	104.11	ה ה	+3 Std Dev	\$160.68
17-2011	Aeros pace Engineers	102.60	ENGR GR 3	+2 Std Dev	\$139.19
17-2112	Industrial Engineers	101.42	▥	+1 Std Dev	\$117.70
17-2161	Nuclear Engineers	99.57		Mean	\$96.21
17-2121	Marine Engineers and Naval Architects	92.94		-1 Std Dev	\$74.72
17-2199	Engineers, All Other	92.60		-2 Std Dev	\$53.23
17-2072	Electronics Engineers, Except Computer	91.91			
17-2141	Mechanical Engineers	91.83	R 4		
17-2131	Materials Engineers	91.18	ENGR GR 4		
17-2071	Electrical Engineers	89.67	S.		
17-2111	Health and Safety Engineers, Except Mini	84.76			
17-2051	Civil Engineers	82.06			
17-1021	Cartographers and Photogrammetrists	70.38	15		
17-2021	Agricultural Engineers	69.71	ENGR GR		
17-1022	Surveyors	62.38			
	Standard Deviation of the Group	21.49			
	Mean Hourly Wage of the Group	96.21			